

(12) United States Patent Gilbert et al.

(10) Patent No.:

US 6,402,913 B1

(45) Date of Patent:

Jun. 11, 2002

(54) SEPARATION OF PLASMA COMPONENTS

(75) Inventors: Andrew Mark Gilbert, Eastwood;

Brendon Conlan, North Ryde; Chenicheri Hariharan Nair, Castle

Hill, all of (AU)

Assignee: Gradipore Limited, North Ryde NSW

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

Appl. No.: 09/546,743

(22)Filed: Apr. 11, 2000

(51) Int. Cl.⁷ B01D 57/02; B01D 59/42;

C02F 1/469; G01F 1/64; C07K 11/26

(58)Field of Search 204/450, 456.

(56)References Cited

U.S. PATENT DOCUMENTS

3,989,613 A 11/1976 Gritzner 2001/0025791 A1 * 10/2001 Landau et al. 204/451

FOREIGN PATENT DOCUMENTS

FR A2 052 391 5/1982 wo WO97/14486 4/1997 WO98/21384 5/1998 wo WO98/43718 10/1998

OTHER PUBLICATIONS

Journal of Chromatography A 827 (1998) 329-335. "Purification of monoclonal antibodies form ascitic fluid using preparative electrophoresis."

Electrophoresis 1994, 15, 968-971. Multifunctional apparatus for electrokinetic processing of proteins.

Derwent Abstract Accession No. 85-041569/07, Class B04, JP 60-001134 A (Fuji rebio KK) Jan. 7, 1985.

Derwent Abstract Accession No. 87-253908/36, Class S03, JP 62-175498 A (Nitto Electric Ind KK) Aug. 1, 1987.

International Workshop of the University of Munich and the International Society for Artificial Organs. Rottach-Egren (FR), Mar. 17-19, 1983. Plasma Separation and Plasma Fractionation. Current Status and Future Directions: Editors: M.J. Lysaght and H.J. Gurland, Munich.

* cited by examiner

Primary Examiner-Jeffrey Snay Assistant Examiner-Samuel P. Siefke (74) Attorney, Agent, or Firm-Baker & McKenzie

(57)ABSTRACT

A method for separating components from plasma, the method comprising (I) separating the plasma into a first and second component, the first component comprising an albumin/α-1-antitrypsin pool and the second component comprising plasma containing components having a molecular mass greater than albumin; (II) treating the second component to form an immunoglobulins concentrate containing immunoglobulins substantially free from components having a molecular mass less than immunoglobulins; (III) treating the immunoglobulins concentrate to remove components having a molecular mass greater than immunoglobulins; and (IV) separating albumin and α -1antitrypsin from the albumin/ α -1-antitrypsin pool.

20 Claims, 6 Drawing Sheets